

Glenn Research Center, Environmental Program Manual

Chapter 21 – RESOURCE CONSERVATION RECOVERY ACT (RCRA) CLOSURES

NOTE: The current version of this Chapter is maintained and approved by the Environmental Management Office (EMO). The revision date for this chapter is October 2003. If you are referencing paper copies, please verify that it is the most current version before use. The current version is maintained on the Glenn Research Center intranet at <http://osat-ext.grc.nasa.gov/emo/pub/epm/epm-contents.pdf>. Approved by: EMO Chief, Michael Blotzer {[mailto: Michael.J.Blotzer@nasa.gov](mailto:Michael.J.Blotzer@nasa.gov)}.

PURPOSE

This chapter establishes policy, procedures and responsibilities for closure of Glenn Research Center (GRC) hazardous waste accumulation areas. It conforms to the GRC Environmental Management System (EMS) as defined in this Manual EMS [Chapter 1](#); and supports GRC environmental policy, which promotes pollution prevention, regulatory compliance, and continuous improvement. GRC employees and contractors at all levels who in any way participate in the development and execution of GRC action involving the handling, excavation, storage, transportation, and/or disposal of soils must follow the established policies, procedures, and guidelines outlined in this manual Chapter 34 – Handling, Reuse, and Disposal of Soil. Following the guidelines in this chapter will help achieve the GRC regulatory compliance objectives and targets. Achievement of these objectives and targets can be tracked through the audit results and Corrective and Preventive Action Report (CPAR) records.

APPLICABILITY

This instruction is applicable to all civil servants and contractor support service personnel at GRC who are responsible for the closure of hazardous waste accumulation areas.

To address negative impacts to human health and the environment due to releases of hazardous wastes, Congress passed the Resource Conservation and Recovery Act (RCRA) in 1976. The primary goal of the Act is to institute cradle-to-grave tracking of hazardous wastes and establish standards for the management of these wastes. A portion of those requirements deals with the proper abandonment of hazardous waste management units once they are no longer utilized, including remediation of sites contaminated with hazardous wastes. The process of properly abandoning the units is referred to as “closure”. This chapter deals only with the closure portion of RCRA requirements.

Federal RCRA closure rules apply only to hazardous waste management units that are required to receive a RCRA permit, and NASA GRC has no permitted hazardous waste management units. GRC hazardous waste management is limited to accumulation of wastes for less than 90-day periods, which is exempt from permitting requirements. However, many states, including the State of Ohio, have passed their own laws and regulations and established programs for ensuring conformance with state versions of the RCRA. Ohio requirements (ORC 3734 and OAC 3745) are more stringent than Federal RCRA standards and require closure of less-than-90-day hazardous waste accumulation areas.

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), commonly known as Superfund, also establish requirements for remediation of sites contaminated with hazardous substances/wastes. However, CERCLA does not apply to RCRA waste management units that are being closed under RCRA (or equivalent state laws and regulations). CERCLA remedial activities are covered under [Chapter 25 – CERCLA Environmental Remedial Activities](#).

DEFINITIONS

Closure

The process of cleaning a formerly utilized hazardous waste management area in a manner that protects human health and the environment.

Closure report

A written report documenting the closure procedures that were actually implemented, including any analytical results, hazardous waste manifests, or other supporting documentation.

Closure certification report

A closure report that is submitted by an independent certifying engineer.

Work plan for closure

A written plan outlining procedures to be followed during the closure process.

BACKGROUND

Background information regarding the history of RCRA closure activities and sites that have been closed can be found in Sections B.8.2.4 and C.8.2.5 of the NASA Environmental Resource Document, dated March 1997.

POLICY

It is the policy of the Glenn Research Center to:

- Close previously utilized hazardous waste accumulation areas in a manner that is protective of human health and the environment.
- Comply with all applicable Federal, State and local regulations.
- Consult about the best techniques and methods to close hazardous waste accumulation facilities as appropriate, with Federal, State, and local agencies, including the U.S. Environmental Protection Agency and the Ohio Environmental Protection Agency.

REQUIREMENTS

Currently, there are no Federal or local laws and/or regulations pertaining to closure of less-than-90-day (generator) hazardous waste accumulation areas. Because NASA GRC Lewis Field maintains only less-than-90-day accumulation areas, only state laws and regulations apply to Lewis Field. At this time the applicable state laws and regulations include the Ohio Revised Code (ORC), Chapter 3734, and the Ohio Administrative Code (OAC), Chapter 3745-66. Since hazardous wastes were stored in underground tanks at NASA Plum Brook Station in excess of 90-day intervals, both federal and state laws and regulations apply to the RCRA closure activities at Plum Brook Station. The applicable federal requirements include the Resource Conservation and Recovery Act, and chapter 40 of the Code of Federal Regulations (40CFR).

RESPONSIBILITIES

Environmental Management Office (EMO):

- Provides Program management and is responsible for the technical success of the program.
- Provides technical evaluation and direction and is responsible for the technical success of the closure projects.
- Negotiates and coordinates technical plans and operational matters with regulatory agencies; and serves as the point of contact with these regulatory agencies.
- Provides evaluation and comment on Industrial Hygiene aspects of contractor Health and Safety Plans, and monitors contractor compliance with GRC occupational health requirements during on-site field operations.

- Provides project management for some closures, including determination of budgetary requirements, requests for funding, tracking of schedules and expenditures, and contractor oversight. Typically, EMO has provided project management for small and/or simple closures.

Waste Management Team (WMT):

- Informs the Environmental Compliance Team (ECT) when an existing waste accumulation unit is planned to be abandoned.
- Provides information during the closure process.
- Assists with closures as requested by the ECT during closure operations, which may include removing all hazardous materials and associated structures and equipment.

Environmental Compliance Team (ECT):

- Informs the Ohio EPA of the planned closure and negotiates a general strategy for closure.
- Prepares the work plan for closure and submits the plan for approval and/or concurrence by the Ohio EPA.
- Conducts sampling as required to determine if handling and storing of hazardous waste may have negatively impacted the environment or property. Evaluates sampling data to determine decontamination and/or disposal options.
- Obtains comments or approval of Work plan for closures from the Ohio EPA.
- Amends work plans for closure as required by the Ohio EPA.
- Prepares Closure Reports documenting results of any inspections, decontamination, sampling and final disposition of any hazardous waste and associated equipment.
- Provides project management for some closures, including determination of budgetary requirements, requests for funding, tracking of schedules and expenditures, and contractor oversight. Typically, the ECT has provided project management for small and/or simple closures.

The NASA GRC Facility Division (FD):

- Provides project management for some closures, including determination of budgetary requirements, requests for funding, tracking of schedules and expenditures, and contractor oversight. Typically, FTED has provided project management for large and/or complex closures.
- Provides contractor services such as surveying and utility clearances, and other services as may be required.
- For closures that are being managed by FTED, the FTED Construction Management Branch provides coordination of the project with NASA GRC organizations, and oversees field operations at GRC.

The NASA Glenn Safety Office (GSO):

- Provides evaluation and comment on safety aspects of contractor Health and Safety Plans, and monitors contractor compliance with GRC safety requirements during on-site field operations.

PROCEDURES

All hazardous waste accumulation areas that are no longer going to be used for management of hazardous wastes must be closed in accordance with sound engineering practices and Ohio EPA requirements. The Ohio EPA has described required closure procedures and detailed technical requirements in the Ohio EPA Closure Plan Review Guidance for RCRA Facilities; March 1999. A synopsis of the required procedure is as follows:

- A work plan for closure must be developed by the EMO and submitted to Ohio EPA. This plan describes procedures for removal and cleanup of hazardous wastes. Ohio EPA regulations do not require or provide for Ohio EPA approval of generator work plans for closure. Ohio EPA policy allows the Ohio EPA local district office to comment or concur on the plans, at its discretion. The local district office of Ohio EPA has requested that GRC submit work plans for closure in order to keep that office informed and provide an opportunity for evaluation of the planned activities.

- Actions described in the work plan for closure must minimize the need for further maintenance and controls, and minimize and eliminate threats to human health and the environment from residual hazardous wastes in the handling and accumulation areas. The plan must also demonstrate that hazardous wastes will be removed and disposed of in an appropriate manner.
- The work plan for closure must be implemented along with any additional requirements that may be negotiated and jointly agreed to by NASA and Ohio EPA. For large or complex closures, an independent professional certifying engineer is recommended to observe and certify the closure activities. The local district office of Ohio EPA has requested that GRC inform that office at least 1 week in advance of implementation of closures, to provide an opportunity for that office to observe the closure.
- A Closure Report must be prepared and submitted to the local district office of Ohio EPA. The report must document the closure procedures, including any sampling results and manifests. For large or complex closures the independent certifying engineer prepares a certification report, which is submitted to the local district office of Ohio EPA. Ohio EPA has requested that GRC maintain all closure documentation for possible future evaluation by the local district office.

RECORDS

The number and nature of phases required for closure vary, depending upon site conditions and project requirements. Therefore, the number and type of records generated will vary for each closure project. The following records should be maintained if generated during the course of the closure:

- Closure work plans and sampling and analysis plans
- Closure reports and sampling and analysis reports
- Closure certification reports
- Risk Assessment reports
- Correspondence with regulatory agencies

Safety and Assurance Directorate ([SAAD](#))

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